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Primary Directions and Advancements in Competitiveness of Montenegrin Construction Sector

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Abstract

This paper is the result of theoretical and empirical research carried out in the framework of the scientific research project "The competitiveness of the construction sector in Montenegro – the conditions, possibilities and directions for improvement" on the basis of which are identified some of the main directions of improving the competitiveness of the construction sector in Montenegro in the future.

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Keywords: competitiveness, the construction sector, clustering, integrated approach, public-private partnerships, standards, innovation, education and strengthening the competencies

1. Introduction

Increasing competitive advantage as a phenomenon of growth and development of companies, but also the economic development as a whole is the subject of constant interest of theoreticians and practitioners. Commitments are clear but in their realization numerous problems encounter. It is known that in some countries the index of

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national and sectoral competitiveness is constantly monitored. While improving their competitiveness, companies are constantly looking for a new opportunity for successful positioning in the market.

During certain studies that were carried out during the development of a number of strategic documents relating to the development of civil engineering and construction sector in Montenegro, in the section that follows are the words of a number of identified basic characteristics of the construction sector in Montenegro, which can be treated as real or potential barriers to strengthen the competitiveness of the sector:

- Obsolescence and lack of harmonization of technical regulations with EU regulations,
- Lack of competitiveness of building products and projects in the EU market,
- Insufficient number and small competitive strength of domestic enterprises for taking over large investment projects in relation to foreign companies,
- insufficiently systematic approach to the domestic market, and insufficient recognition of local companies in foreign markets (in the region and beyond),
- lack of R&D dimension as a very important factor in strengthening competitiveness, especially in conditions of extremely dynamic and demanding construction sector when it comes to the application of techniques and technology,
- a significant share of non-resident labour force in the employment structure which has slowed the process of systematic management of human resources as an important factor to improve the modern concept of competitiveness, as well as the insufficient number of qualified and highly educated workforce,
- a high level of current short-term indebtedness of the company, which emphasizes the problem of obtaining bank guarantees,
- burden of enterprises stocks, which mostly affects the lack of available financial resources,
- lower equipment and machinery level than allowed which causes low productivity,
- generally lack of resources in companies as a regular problem,
- ineffcient enterprise organization, etc.

On the other hand, Montenegro declared its routes to enter the EU with clear and defined areas of reform. In this sense, the development of the construction sector in the coming period must be approached as an integral part of the EU integration process and the sustainable development of Montenegro. The vision defined in the Strategy of development of construction business in Montenegro by 2020 is just "the integration of Montenegro in the European construction market, becoming competitive among four leading countries in the region through an innovative, knowledge-based and highly organized the construction sector". From this defined vision derives mission of the construction sector which should become more "dynamic, productive and creative sector having the ability to create flexible and cohesive community building in their neighbourhood a support for creation of the general welfare and benefits to society. On these foundations, other parts of society will mutually build its growth".

One way to achieve this is to strengthen mobility, i.e. the competitiveness of the construction sector. The modern market demands have led construction companies to implement a competitive strategy that represents a new approach to business, which must be focused on the effective use of all usable resources, capacities and capabilities.

The situation in the contemporary construction market today can be described as companies bidding to win a higher percentage of the market, gain a leading position and achieve a competitive advantage over other companies. Additional demand is a traditionally large variability in demand of construction products and services, which significantly affects the construction companies business and the way they adapt to changes. The traditional fragmentation of the construction services market allows a high competition and easy entry of new competitors into the market which further complicates the application of competitiveness and competitive advantages in relation to each company individually.

In order to raise the competitiveness of the construction sector in Montenegro, and on the basis of the theoretical and empirical research from the scientific research project "The competitiveness of the construction sector in

Montenegro – the conditions, opportunities and ways to improve", some of the main directions for improvement of Montenegrin construction competitiveness are identified.

2. Research opportunities for clustering of the construction sector in Montenegro

Based on one of the first definitions, the Porter's clusters are defined as "geographically targeted group of interconnected companies and institutions in a particular sector, which are linked by unity and complementarity" (Porter, 2008). Clusters enhance industry competition on international market (Porter, 1990) in three ways: 1. Productivity growth, 2. innovation, and 3. the establishment of new enterprises.

The functioning of the cluster is based on mutual trust between stakeholders in the cluster that is acquired during the period. Establishing different (voluntary) business and communication links between company (product manufacturer and supplier of various inputs of production) and institutions (financial institutions, universities, professional associations, etc.) within the cluster allow them to successfully deal with common threats and opportunities which are exposed to the market and thus contribute to increasing the competitiveness of the area in which they are formed. Cluster identifies the product and the location where the companies are located where the cluster includes smaller or larger area within the country (village, town, municipality, region), but not the entire area of the state.

The organization of clusters is common in the field of agriculture and tourism, but also occurs in other areas. Size of the enterprise that are included in the cluster is different, but the greatest benefit may have micro, small and medium enterprises (MSMEs), which thus can overcome obstacles in terms of growth and size of achieving collective efficiency. This implies that they can improve the position of the raw materials, improve access to productive, financial and scientific resources, improve the possibilities of delivery of products compliant with technical and other conditions, including conditions regarding the environment. In addition, MSMEs are important factors of development and progress given the significant share of this sector in trade, employment and exports.

At the European level, clusters are in the Bologna Declaration of policy of small, micro and medium enterprises (MSME) in 2000 recognized as the "enabling environment for innovative and competitive MSMEs", and in 2007 the OECD adopted report entitled Competitive Regional Clusters – national policy approaches in which the analysis is done of the objectives, instruments and use of interstate role in their development. Parallel with this appropriate on-line platform with integrated information regarding cluster policy in Europe are developed according to the Strategy for sustainable economic growth of Montenegro through the introduction of clusters for 2012-2016.

In the process of joining the European Union the candidate countries are required to make progress in the harmonization of legislation with the EU acquis (Acquis Communautaire) in all fields, and also part of Chapter 20: The Politics of companies and industries, including the creation of conditions and the implementation of the strategy of improving the status and MSME development, in order for this company to become the basis of economic development. In this sense, Montenegro established legal and institutional conditions of development of MSME adopted legislation, established the Directorate for Development of Small and Medium Enterprises, the Strategy for Development of SMEs and other strategies that rely on the participation of SMEs. Among the latest documents, the Strategy for Sustainable Economic Growth of Montenegro through the introduction of clusters 2012-2016 was adopted in 2012.

„Strategy for sustainable economic growth of Montenegro through the introduction of clusters for 2012-2016" has the overall objective to contribute to balanced regional socio-economic development by increasing competitiveness and employment capacities of micro, small and medium enterprises and entrepreneurs (particularly in less developed areas) ensuring that the different economic actors in the country equally reap the benefits deriving from the EU integration and further market opening. The strategy is aimed at contributing to the achievement of the four objectives and at the same time is in line with the objectives and other key strategic documents of the Government of Montenegro. These objectives of the Strategy for sustainable economic growth of Montenegro through the introduction of clusters for 2012 – 2016 include (1) increase in exports, (2) local origin of products and import substitution, (3) the creation of new companies and jobs and (4) maintaining the employment level".

The Strategy indentifies and maps clusters in the manufacturing, construction, tourism, agriculture and food industry (Figure 1). The construction industry is mainly located in the central and southern region of the country and

in the process of mapping the existing building clusters there are at least 50 companies with more than 100 employees in five town clusters: in Podgorica, Budva, Bar, Niksic and Kotor/Herceg Novi. These clusters include 807 companies with a total of 5,765 employees and have an annual turnover of 256 million Euros with almost 450 dependent households.

In particular clusters for the production of building materials have been indentified: for stone (2 clusters in Danilovgrad and Niksic), for metal parts and structures (2 clusters in Podgorica and Niksic) and for metal doors and windows (3 clusters in Bar/Ucinj Podgorica and Niksic). For these clusters mapping condition was slightly less, ie the minimum number was set at five companies which employ more than 60 employees in town. These clusters include a total of 76 companies, with a total of 1,047 employees and annual turnover of EUR 22 million and 628 dependent households. Cluster for the production of stone in Danilovgrad is the only cluster in the field of construction and production of construction materials that was included in the pilot clusters.

At the stage of incubation and capacity building activities emphasis was on pilot projects. In the same period, the Programme encoured, the development of clusters in accordance with the Strategy and available resources were available for clusters in the northern region of Montenegro, Cetinje and Ulcinj, in the amount of € 7,000 per applicant and to the strategic areas (agricultural production and processing, wood processing). Clusters of civil engineering in the construction of residential and commercial facilities were exempted.

The Program was implemented through issuing calls for proposals in 2012 and 2013 and during that period eight applications clusters from the North region have been approved. They were entitled to a refund of 70% of the cost (or 7,000 EUR) plus VAT for the purchase of equipment. Considering that the allocated funds were not spend (50,000 euros each year), for 2014 the right for applications was granted to the companies from the whole territory of Montenegro, while the amount increased to EUR 10,000 per applicant.

Ministry of Economy through the IPA 2011 granted 500,000 Euros for technical assistance in the implementation of the Strategy for sustainable economic growth through the introduction of clusters 2012-2016. The project was carried out after the procedure in the EU Delegation started in March 2014.

It should be noted that in the framework of the Construction Development Strategy of Montenegro until 2020 in order to overcome the problem of lack of experience of building companies in the realization of complex objects its connection into clusters for the period 2010-2015 was estimated. The possible targets of connection at different levels, there were identified: joint participation, development of new ideas, processes, methods of work and technology, better offer of products and services particularly in cooperation with public institutions, universities, associations. Unfortunately, this has not happened.

Open competition in public procurement and complexity of requirements regarding licenses to be met by the bidders, has led to a number of construction companies in these procedures participate as consortia or jointly submit bids for proposals, especially since 2012 when a new law on Public Procurement entered into force. It mostly associate (Porter, 1998) with companies within the same municipality.

In the next period in which the realization of significant infrastructure and other development projects is expected, but in terms of significant crisis on the construction market in the region and beyond, it can be assumed that our construction companies will recognize and make better use of the principles of association in clusters to increase the level of competitiveness and maintain and enhance market position. This is especially true of the planned construction of the first section of the highway Bar – Boljare, where on the initiative of the Government, the construction companies managed to ensure that participation in the construction of Montenegrin operations is the amount of 30%.

In the research for this project, cooperation established between construction companies was assessed as a medium-high level of cooperation in the exchange of information, technical expertise and a joint approach to the markets. Unfortunately, clusters whose aim is innovation and improvement of methods and technology have not yet lived up. This was probably due to the lack of funds for these purposes, bearing in mind that most construction companies operate with major costs of the loan.

Based on the above, certain recommendations can be formulated in a direction of better use of cluster associations:

1. Establish a functional sector association, oriented towards the promotion of business (or enhance the work of the Committee for the construction of Chamber of Commerce of Montenegro, so the entrepreneurs in this sector are encouraged on a greater level of involvement in its activities).
2. Increase awareness of possible subjects in the general area of construction and production of construction materials on the possibilities of association in clusters, as well as possible sources of funding intended for this purpose. A special role in this regard, through roundtables, workshops and presentations, is given to different bodies and associations such as the Directorate for Small and Medium Enterprises, Chamber of Commerce, Union of Employers, Chamber of Engineers, Academy of Engineering Sciences and etc.
3. In addition to these forms of information, it would be desirable to publish information on the internet or on a separate site, which would be published and other information in the field of improvement of the competitiveness of construction companies, business, tender in the country and the region, etc. This web portal can be part of a single on-line SME portal, as a specific form of institutional infrastructure to support SMEs, which should be established in the Strategy for Development of Small and Medium-sized Enterprises.
4. Undertake steps to incorporate most of the identified institutions (Ministry of Tourism and Sustainable Development, the Agency for the Environment and Public Works, Ministry of Finance, Real Property Management Agency to support the establishment of clusters.

3. Integrated approach to construction/involvement of major subcontractors and round suppliers during the design phase

Market strategies of construction companies may be focused on the manufacture of the product which is cheaper than the other and that meets the basic criteria and standards of quality, and as such will be recognized by users as an alternative to meet their needs. The second strategy relies on the production of a product whose quality and image represents superior value to final users. The essence of both strategies is the differentiation (products and/or services) in relation to the competition.

In both cases Supply Chain Management as a new business philosophy (Rapajic, 2010) is a source of many advantages for those companies who are networked in such a unique business chain. In the supply chain are all those participants who in an indirect or direct manner participate in meeting the needs of consumers or end users. In addition to activities related to the procurement of resources, supply chain includes the conversion of these resources under the coordination of all partners in the supply chain with the aim of incorporating the major business functions between companies in one business model of high performance. This should enable the establishment of efficiency and increase productivity and therefore the possibility of reduction of costs, but also to improve the quality of products which is reflected through increased reliability and confidence by end users and ultimately to increase the value.

Supply chain management has been implemented in the industry but not enough in the construction industry. This is due to the specifics of construction production and products which are affected by: the discontinuity of production, project orientation, the individual character of production, the establishment of an informal system of governance and organization, the complexity of the process and participants, a low share of production for the market in relation on production for known customer (individual order) and others. These specifics with tight deadlines of the project realization constantly review the cost-effectiveness of implementation of projects by clients and volatility in business. They lead to distrust and adversarial relations between the participants and even conflicts. These precisely complicate the application of management methods supply chains in the construction industry (Acimovic et al, 2010). The most common problem in the construction industry – is when experts or consultants are generally believed, while the contractors and subcontractors are not. It also represents the greatest obstacle to the effective implementation of supply chain management.

The construction sector is very fragmented by a large number of micro and small enterprises, large differences in efficiency within the sector and considerable difficulties in spreading good practice. According to Acimic better connection in the value chain would be significantly expanded scope for communication to impact innovation effects which arise in joint cooperation.

Supply chains in the implementation of construction projects include designers, contractors, suppliers (materials

and semi-finished products), equipment suppliers and subcontractors. The beginning and the end are clients (investors), and end users. Materials and semi-finished products are defined by specific technical specifications which are defined for each project individually until the equipment is defined on the basis of special projects, technologies all of which underline the complexity of managing the supply chain in construction projects. The final level of construction project management complexity will be defined by the requirements of the final customers which are defined in the project and specifications.

Basic specificities and interference to successful implementation of supply chain management in the construction industry are:

- Insufficient degree of standardization;
- Procurement process fragmentation;
- Diversity of members and stakeholders in the construction project.

In order to increase the competitiveness of the Montenegrin construction with the application of effective methods of supply chain management, following activities should be undertaken:
1. through the established sectorial association to organize bilateral and multilateral meetings for companies in the sector (domestic and international) with the aim of creating associative link between value;
2. increase the level of standardization, as the site would not only be the "ad hoc factory (Acimovic et al, 2010), temporarily created for the production of prototype:

- draft and adopt by the competent authorities (ministries, directorates etc.) detailed technical specifications for different types of construction works and facilities: roads (motorways, highways and regional roads), bridges, tunnels, regulation of watercourses, geotechnics, facilities of different materials (concrete, steel, wood) rehabilitation then testing of materials and so on. They would be given detailed explanations, laid down different procedures and methods, methods, timing and frequency of control testing, alternative methods of measurement. This would simpler project preparation, tender documentation and observation resources, methods and participants in the implementation of projects as noted in the Montenegrin Civil Engineering Development Strategy;
- use standard international contract models for the implementation of construction projects (FIDIC conditions of contract) in order to gain routine in the administration and management of projects especially in order to gain experience in the application of these models for performance in the international market, or with foreign investors who prefer this model contracts;

3. Involving all the supply chain actors in early stages of implementation of construction projects in order to reduce fragmentation of the procurement process with the application of a suitable model of implementation. A common, or most commonly used model for realization of projects based on the sequential completion of certain phases (conception, defining-design, construction, test operation). When the designer and contractor work in conjunction and participate in the same supply chain that can bring multiple benefits to the end user but also increase the efficiency of implementation of construction projects.
4. Encourage associations in clusters in order to create long-term relationships in supply chains;
5. Exercise trainings and inform stakeholders about best practices in the organization of professional associations (Chamber of Commerce, Chamber of Engineers, Academy of Engineering Sciences and etc).

4. Encouraging Public-Private partnership

Public-private partnerships (PPPs) are optimal, but a complex model (agreement) to overcome the "gap" (Marovic, 2014) between the needs for improvement of public services and infrastructure and the lack of funds for this investment. Public-private partnership in a number of programming and strategic documents of the Government of Montenegro is recognized as a considerable opportunity for improvement of socio-economic development of the country. Nevertheless, little has been done in the institutional sense. The Law on Concessions in 2009 is not completely harmonized with the European regulations and the Law on public-private partnership has not been

adopted yet. In cooperation between the public and private sector in public services around 40 sectoral laws are regulated. The existing legislation in this field has enabled the signing of more than 180 contracts, of which the largest number refers to the concession for the exploitation of natural resources according to the Work Report on Commission for Concession.

In institutional terms there is no body that would participate in all phases of the contracts relating to public – private partnership while the part of the managerial competence is on the Council for Privatization and Capital Projects and the Commission for Concessions.

The basic advantages of this form of improving public services are:

1. Less budget burdens in the future,
2. The possibility of providing funding at a lower cost,
3. Increased sustainability solutions,
4. Increased efficiency and effectiveness in implementation.

Construction companies in Montenegro in the previous period mainly involved in some form of PPP in the field of housing construction, energy efficiency improvements, energy, student standards improvement (through the construction of the student dormitory), transport, urban development (construction of the shopping centre). Concessions in the field of tourism are being underway (lift Cetinje-Lovcen-Kotor), art (complex MACCOC, a combination of cultural, tourist and economic revitalization of abandoned industrial infrastructure in Cetinje). With the adoption of the Strategy of public-private partnerships in the health system in Montenegro with an action plan for the period 2014-2017 (June 2014), the requirements and announced projects for implementation have been created. That opens the possibility of recruiting construction companies from Montenegro in the construction of health facilities and centres.

This represents a significant opportunity for the development of construction and improvement of its competitiveness, especially in the current situation when the construction sector was hardest hit by the financial and economic crisis (the value of construction works in 2012 has declined by about 40% compared to the boom period from 2008). Voluntary partnerships between the public and private sectors and the adoption of an appropriate regulatory framework have been recognized as a long-term approach to improve the competitiveness of construction at the European level according to the European Strategy for the sustainable competitiveness of the construction sector and its enterprises.

Some countries, in response to the crisis, invested in stimulus packages which include for example a direct investment in infrastructure projects, a reduced rate of VAT for new construction and/or renovation of old buildings, preferential interest rates for mortgages, etc. However only those approaches as indicated in the European construction strategy that include measures aimed at improving skills and qualifications, innovation and 'green' economy will have a lasting impact on the competitiveness of the sector.

Regardless of the PPP model, the basic problem is the distribution and the public and private partners risk management. So, in that sense it is necessary to fulfil the following requirements:

1. define harmonized legal, economic and political framework for the implementation of PPPs (Marovic, 2014);
2. define adequate legal solutions in terms of environmental protection, general safety and protection of competition;
3. establish an adequate central register of PPP (Work Report, 2013);
4. develop effective mechanisms for public investment planning to ensure that the highest quality projects are prioritized;
5. develop the necessary institutional capacity to manage PPPs;
6. develop strong accounting and reporting systems to accurately reflect all fiscal implications of PPPs (World Bank, 2008 Report);
7. train and develop private construction companies for effective performance in PPP tenders, but also for effective risk management methods that carry these;
8. build effective mechanisms of cooperation between the public and private sectors with the aim of a successful business alliances creation through the work of the functional sector associations;

9. organize the ranks of dialogue between public and private sectror related to the position and needs of sector.

5. Improving the standards application

In the research of small and medium enterprises competitiveness (the majority is in the Montenegrin construction) the importance of establishing international quality standards is emphasized. The establishment of an improved system of standardization is recognized as one of the priorities in the direction of increasing economic growth and competitiveness of the Montenegrin economy (Strategy, 2011). Standardization is a prerequisite for inclusion in international and European integration process and the basis for the removal of technical barriers to trade, i.e. ensuring the free flow of goods and services.

It can be said that in Montenegro quality infrastructure under the authority Ministry of economy has been established, the Institute for Standardization (ISME), the Accreditation body of Montenegro and the Institute of Metrology with the adoption of legislation in this area, which is harmonized with European Law on Technical Requirements for Products and Assessment of Compliance with the requirements (Official Gazette of Montenegro – OGMNE 53/11), Law on Standardization (OGMNE 13/08), Law on Accreditation (OGMNE 54/09), the Law on Metrology (OGMNE 79/08), Law on General Product Safety (OGMNE 48/08), the Law on Trade Inspection (OGMNE 53/11) and by-laws. In harmonization with the European standards and standardization documents in the field of civil engineering at the Institute for Standardization, it was established a number of so-called "mirror" technical committees to monitor the work of CEN 57 technical committees covering the areas of civil engineering. It is currently in the EU implementation phase the two-year project "Development of quality infrastructure and metrology in Montenegro" (DQIM) which has the Public Agency for Technical Assistance of France (ADETEF) started in Montenegro in March 2013 and which will last until March 2015 in order to help build the capacity of the Ministry of Economy and the Institute of Metrology of Montenegro. Its task is to meet the legislative, regulatory and technical requirements of the EU that will facilitated trade and free movement of goods in accordance with the EU acquis in the area of Chapter 1 (free movement of goods), as well as the requirements of the World trade Organization.

In order to provide increased security and cost-effectiveness of building construction, the process of introduction of Eurocodes has started. It entails the adoption of a number of ordinances compulsory for use in construction which opens opportunities performances of our builders in the EU market. In addition, among the most important standards the building companies should emphasize the following international standards: Quality Management System ISO 9000, system of environmental management ISO 14001 Quality Management System to ISO 10006 projects, Risk Management ISO 31000, Management System Health and safety OHSAS 18001.

In the field of standardization in the construction industry at the level of ISO most of the activities implemented by Technical Committee ISO/TC 59, Buildings and civil engineering works, which has from 1947 so far developed 109 international standards. These standards were with a variety of topics: terminology, organization of information technology in the process of building and civil engineering, geometric requirements for structures, building elements and components, modular coordination, general rules for joints, tolerance and assemblies and performance requirements. Subcommittee of this Committee focused on establishing standards for its projected life, durability, planning life of the buildings, their accessibility and usability. The standards that provide the processes, procedures and methods of procurement in the construction industry have been adopted. They are fair, transparent, competitive and cost effective. These standards provide a framework in which public, private and international organizations can develop their own systems of procurement to achieve fair competition, reduce the possibility of abuse and improve predictability in the results of the procurement.

In the construction of Montenegro, there are a number of companies that have certified quality management system in accordance with ISO 9000, but it is estimated that this number is insufficient. However, the increase of this number, through the establishment of certification incentives system was one of the strategies committed in the Civil Engineering Development Strategy in Montenegro until 2020. Unfortunately, there were no actions except under the former Program Committee for Quality (2007), but since the establishment of the Investment Development Fund of Montenegro (2009), there is a chance to compete for these funds in the context of encouraging the development of SMEs and encouraging exports. According to reports on the work of the Fund for the past period there was no projects related to certification in the field of construction.

Construction with its specific features is extremely inert area for the application of modern methods (EGAN 1998 report) and quality management models, although there is growing interest of it. According to the experience and research conducted in Australia (Winch et al 1998) among the local construction companies the main problems that hinder the introduction of quality management system are: inadequate identification of user requirements; lack of time; lack of information; disadvantages of technical documentation, specifications, drawings; superficial and bureaucratic application of quality standards; construction does not meet the intent contained in the technical documentation; insufficient control of documents and amendments, and etc.

Apart the quality system management standard, the possibilities of improving the competitiveness of the Montenegrin construction companies is based on the application of standards for energy efficient and environmental buildings (LEED standard). This is especially if one takes into account the commitment of Montenegro as an ecological state.

To raise the competitiveness of construction companies by improving the application of standards, it would be necessary to implement the following measures with the active involvement of the Directorate for Strategic Development of Civil Engineering of the Ministry of Sustainable Development and Tourism, Investment and Development Fund of Montenegro, Directorate for Development of Small and Medium Enterprises, Chamber of Commerce, Chamber of Engineers:

1. organize round tables and workshops concerning information on the significance of standardization, certification and accreditation to increase the competitiveness of construction companies,
2. organize trainings and disseminate examples of good practice in this area with the assistance of the Ministry of Sustainable Development and Tourism and its Directorate for Strategic Development of Civil Engineering,
3. initiate and develop projects for the promotion of competitiveness through the introduction of standardization and certification,
4. establish incentives (financial and non-financial nature) for achieving strategic commitments in this area of the Civil Engineering Development Strategy in Montenegro until 2020.

6. Encouraging innovations

Price competitiveness policy is the policy of developing countries while the developed countries and the most successful companies have a policy of competitiveness based on knowledge and innovation. Old sources of competitive advantage (land, capital and labour) (Sureephong et al, 2010), by themselves, do not represent a source of competitive advantage. The accent is on the information and knowledge that are the basis for innovation.

According to the results of the Global Innovation Index Montenegro is ranked 45th out of 142 countries in 2012, and in 2013 made a shift in one place. Comparing with other ex Yugoslavia countries, Slovenia – now the EU member, in 2013 was ranked 30th (a fall from 26th position in 2012).

Viewed from the prism of development of the construction sector (Civil Engineering Strategy, 2010), one of the main issues of the construction is the integration of Montenegrin construction is to become competitive among four leading countries in the region through an innovative, knowledge-based and highly organized construction sector. In order to ensure the realization of such a strategic goal of development of any sector of the economy, including construction it is necessary to implement some of the fundamental objectives of the revised Strategy for Scientific Research Activity 2012 – 2016 in the upcoming period, such as:

- Increase the intensity of cooperation among companies in Montenegro and strengthen strategically oriented cooperation between science and business, with a special focus on the success and sustainability;
- Strengthen the cooperation of SMEs with research institutions and enable innovative companies' easier access to foreign sources of funding
- Identify barriers for entrepreneurs to sell their ideas to the market.

One of the significant operating points in the development of construction are efficient construction, good design and material specifications, control of waste at construction sites, and innovative use of recycled materials.

In accordance with the Development of Small and Medium size Enterprises Strategy, the instruments for stimulating innovation and technological competitiveness of SMEs should be used through research and development projects. The emphasis should be on applied research and development with developed innovative potential through the creation of new companies, products and services, process.

One of the ways of improving the innovation of the construction sector should be sought through the formation of construction clusters which through joint operations and practices, in the process of learning and exchange of information, generate certain knowledge that inevitably causes the appearance of innovation.

It is evident that investment in research and innovation remains very low in comparison with the industry as a whole. However, this can be explained by the intensified demand for workers and the fact that the main interest of construction companies is to integrate the available technological developments in its activities. This sector is likely to increase its efforts in research and innovation to better stick with high consumption (such as metallic and non-metallic minerals, chemicals and wood) and the production of large amounts of waste. Moreover, the industry is developing more and more materials that are easier to collect and reuse systems or 'building solutions' that facilitate the 'deconstruction' of works and reuse of materials. These efforts are in line with the new basic requirement set out in the Rules of construction products relating to sustainable use of natural resources, as well as the Raw Materials Initiative (RMI), the potential development of best practices in waste collection and procession especially in the restoration/conversion of valuable materials from waste and through support for research on economic incentives for recycling / recovery. However, the EU and national initiatives should speed up the implementation of innovative solutions and best practices.

7. Education and strengthen of the competencies and workforce skills

It is expected that in the coming, the medium-term period, construction companies and partly the building materials manufacturers face with a growing need for new workforce of appropriate qualifications. It is likely that according to some projections a large number of skilled labour by the end of the second decade of the 21st century will be retired which represent two thirds of jobs in construction, industry and transport (European Strategy,. 2012). Construction in the past period predominantly manifested a chronic shortage of skilled labour, the appropriate knowledge and skills. One of the reasons of chronic deficit can be explained by insufficient attractiveness of these professions for young people. On the other hand, an increasing problem becomes more pronounced satisfaction of all requirements for modern knowledge and skills related to the qualifications specified in the construction industry that require new or additional education and/or training.

Furthermore, advocating the concept of efficient and sustainable use of resources and a low-carbon economy, it will obviously require a significant structural change in the construction sector. This will, in itself, set the need for prediction and adaption to new skills and competences in this area. Only one segment of this process is already actualized preparing the workforce for the construction of buildings, with a minimum level of energy consumption (close to zero). It is clear that significant changes in the skills and qualifications of the workforce in the construction industry will impose the use of new technologies enabling the construction of such facilities, as well as the implementation of flexible work organization practices in the construction industry, which has to "monitor" component implementation of new technologies.

8. Conclusion

Based on the experiences of developed countries which successfully improve competitiveness, it is obvious that the process of improving competitiveness must be based on the active participation of various stakeholders (government, private sector and international community).

Considering that the contemporary business process is based on a dynamic approach and rapid changes, it is obvious that the Montenegrin construction sector in the future period will face a number of challenges, which must be timely and adequately responded in order to improve competitiveness.

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